

Application No. 09/975,690
Amendment dated December 5, 2007
Reply to Office Action of September 5, 2007

Docket No.: NY-THEOR 203-US1

REMARKS

Claims 1-12 and 16-20 have been rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,931,625 to Coad et al. (hereinafter "Coad") in view of U.S. Patent No. 6,332,163 to Bowman-Amuah (hereinafter "Bowman-Amuah"). Claims 13-15 have been rejected under 35 U.S.C. § 103 over the combination of Coad, Bowman-Amuah, and U.S. Published Patent Application No. 2006/0059107 to Elmore et al. (hereinafter "Elmore"). Applicants respectfully traverse these rejections.

To establish a prima facie case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed. Cir. 1991); MPEP 2143.

Applicants respectfully note that these same claims 1-20 were also finally rejected under 35 U.S.C. § 103 over Thomas (Anne Thomas, "Container-Managed Persistence," Patricia Seybold Group, December 1998) and Underwood (U.S. Patent No. 6,601,233) on December 1, 2004. Applicants filed their Appeal Brief on May 2, 2005 in response to the Final Office Action of December 1, 2004. In response to Appellant's Appeal Brief, the Examiner withdrew the final rejection and issued a non-final rejection of September 9, 2005 based on Iyengar (U.S. Patent No. 6,018,627) and Thomas. In response to the Non-final Office Action of September 9, 2005, applicants essentially submitted same

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arguments on December 8, 2005 as in its Appeal Brief of May 2, 2005 because the combination of Iyengar and Thomas is no better than the combination of Thomas and Underwood in teaching or suggesting all of the claim limitations of the present application. Once again, the Examiner refused to accept applicants' arguments and finally rejected these same claims 1-20 over Iyengar and Thomas on February 27, 2006. Applicants filed their Appeal Brief on July 31, 2006 (and resubmitted on May 16, 2007) in response to the Final Office Action of February 27, 2006. Appeal Brief filed on July 31, 2006 and May 16, 2007 essentially reiterated applicants' arguments set forth in their response of December 8, 2005. In response to Applicants' Appeal Brief, the Examiner withdrew the final rejection and issued yet another non-final rejection based on Coad, Bowman-Amuah, and Elmore. Applicants sincerely hope to avoid filing yet another Appeal Brief to convince the Examiner that the present invention is patentable over the newly cited references.

Here, the Examiner has failed to establish a prima facie case of obviousness because Coad, Bowman-Amuah, and Elmore independently or in combination therewith do not teach or suggest all the claim limitations of claim 1-20. The Examiner's current proposed combinations based on Coad, Bowman-Amuah, and Elmore are no better than the Examiner's previously proposed combinations of Iyengar and Thomas, and Thomas and Underwood in teaching or suggesting all of the claim limitations of the present application.

Applicants once again submit that the only the present invention teach or suggest a method of generating code for Enterprise JavaBean (EJB) components from a business process. The present method as recited in independent claim 1 (included in dependent claims 2-20) generates all the source code, object definitions, object relationships, and EJB-required files from a UML diagram or representation; graphically models the business process using a UML drawing tool to provide an UML model having a plurality

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of EJB classes; defines the relationships between the plurality of EJB classes; stereotypes each of the plurality of EJB classes into one or more EJB components; transforms each of the EJB components into EJB source code; and permits developers seamlessly update the generated EJB source by embedding code markers in the EJB source code.

Contrary to the Examiner's assertion, Coad does not teach or suggest a method of generating code for Enterprise JavaBean (EJB) components from a business process. In fact, various passages in Coad cited by the Examiner merely describe a software debugging and editing tool. The Examiner incorrectly asserts that Coad teaches or suggests the claimed step of "graphically modeling said business process using a UML drawing to provide an UML model having a plurality of EJB classes," as required in claim 1. In fact, col. 2, lines 14-18 in Coad, cited by the Examiner, merely describes that "[c]onventional design tools that provide a graphical representation of code associated with modeling a business process or software project present an incoherent and unwieldy graphical view of the code when the respective model is complex." Also, col. 3, lines 38-49 in Coad, cited by the Examiner, merely describes that "[m]ethods and systems consistent with the present invention provide an improved software development tool which simplifies a graphical representation of software code to allow a developer to easily view a complex or unwieldy mode of a software project" Further, col. 5, lines 12-40 in Coad, cited by the Examiner, merely describes that the group of elements can be graphically represented. However, contrary to the Examiner's assertion, one of ordinary skill in the art, after reading and understanding these cited passages in Coad, would not come to an incorrect conclusion that Coad teaches or suggests the claim step of "graphically modeling said business process using a UML drawing to provide an UML model having a plurality of EJB classes." It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

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Also, the Examiner incorrectly asserts that Coad teaches or suggests the claimed step of "defining relationships between said plurality of EJB classes," as required in claim 1. In fact, col. 5, lines 26-40 in Coad, cited by the Examiner, merely describes that "[t]he relationship between class 202 and the interface depicted by diagram 220 is graphically represented by link 240. ..." However, contrary to the Examiner's assertion, one of ordinary skill in the art, after reading and understanding this cited passage in Coad, would not come to an incorrect conclusion that Coad teaches or suggests the claim step of "defining relationships between said plurality of EJB classes." The mere fact that the relationship between the class and the interface can be graphically represented by a link in Coad does not necessary imply that Coad teaches or suggests defining the relationship between the EJB classes of the UML model, as suggested by the Examiner. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

Further, the Examiner incorrectly asserts that Coad teaches or suggests the claimed step of "stereotyping each of said plurality of EJB classes into one or more EJB components," as required in claim 1. In fact, col. 4, lines 20, 59 in Coad, cited by the Examiner, merely describes that the software development tool identifies relationships, such as inheritance between class elements. However, contrary to the Examiner's assertion, one of ordinary skill in the art, after reading and understanding this cited passage in Coad, would not come to an incorrect conclusion that Coad teaches or suggests the claim step of "stereotyping each of said plurality of EJB classes into one or more EJB components." The mere fact that Coad's software development tool can identify inheritance does not necessary imply that Coad teaches or suggests stereotyping each EJB class into one or more EJB components, as suggested by the Examiner. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

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Furthermore, the Examiner incorrectly asserts that Coad teaches or suggests the claimed step of "transforming each of said EJB components into EJB source code," as required in claim 1. In fact, col. 4, lines 1-26 in Coad, cited by the Examiner, merely describes that the software tool can generate code corresponding to a known pattern (i.e., using a reusable solution to a recurring problem). However, contrary to the Examiner's assertion, one of ordinary skill in the art, after reading and understanding this cited passage in Coad, would not come to an incorrect conclusion that Coad teaches or suggests the claim step of "transforming each of said EJB components into EJB source code." The mere fact that Coad's software development tool can generate code corresponding to a known pattern (i.e., using a reusable solution to a recurring problem) does not necessary imply that Coad teaches or suggests generating code to a business process, as suggested by the Examiner. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

"To imbue one of ordinary skill in the art with knowledge of the present invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim of the insidious effect of hindsight syndrome, wherein that which only the inventor taught is used against the teacher." W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983). In the present case, Coad does not teach or suggest the claimed steps of graphically modeling, defining relationships, stereotyping, and transforming, as required in claim 1 of the present invention.

Moreover, as admitted by the Examiner, Coad fails to teach or suggest the claimed step of "embedding code markers in said EJB source code to enable subsequent updates to said EJB source code," as required in claim 1. To cure this deficiency, the Examiner turns to Bowman-Amuah. However, contrary to the Examiner's assertion, Bowman-Amuah fails to teach or suggest the claimed step of embedding code markers. In fact,

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col. 285, lines 19-20 in Bowman-Amuah, cited by the Examiner, merely describes that business objects can request and update themselves independently of each other using standard CRUD flag capabilities of creating, retrieving and updating, and deleting. *See also* Bowman-Amuah from col. 284, line 20 to col. 285, line 6. One of ordinary skill in the art, after reading and understanding these cited passages in Bowman-Amuah, would not come to an incorrect conclusion that Bowman-Amuah teaches or suggests the claim step of "embedding code markers in said EJB source code to enable subsequent updates to said EJB source code." One of ordinary skill in the art would not mistaken setting a flag to update a business object in Bowman-Amuah as being equivalent to embedding code markers in the EJB source code to enable subsequent updates to the EJB source code. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

The prior must be judged based on a full and fair consideration of what that art teaches, not by using Applicants' invention as a blueprint for gathering various bits and modifying the pieces in an attempt to reconstruct Applicants' invention. The Examiner cannot simply change the principle of the operation of the reference or render the reference inoperable for its intended purpose to render the claims unpatentable. Accordingly, it is submitted that the Examiner has succumbed to the lure of prohibited hindsight reconstruction.

Not only does Bowman-Amuah fail to teach or suggest the claimed step of embedding code markers, Bowman-Amuah also fails to teach or suggest the claimed steps of graphically modeling, defining relationships, stereotyping, and transforming. Accordingly, applicants respectfully submit that the proposed combination of Coad and Bowman-Amuah fails to teach or suggest none of claims steps of graphically modeling, defining relationships, stereotyping, transforming, and embedding code markers, as

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required in claims 1-20. Hence, applicants respectfully submit that the Examiner has failed to establish the basic requirements of a *prima facie* case of obviousness for claims 1-12 and 16-20.

Additionally, as admitted by the Examiner, the combination of Coad and Bowman-Amuah fails to teach or suggest a Smart Component, as required in claims 13-15. To cure this deficiency, the Examiner turns to Elmore. However, contrary to the Examiner's assertion, Elmore fails to teach or suggest a Smart Component having at least one Smart Feature (which is fully described in paragraphs 123-132 of the present application. In fact, paragraph 756 in Elmore, cited by the Examiner, merely describes that "In addition to manually configuring quote items, users can take advantage of features of the Smart Component Server to streamline the quote configuration process, pre-population." See also Elmore at paragraphs 67, 83. One of ordinary skill in the art, after reading and understanding these cited passages in Elmore, would not come to an incorrect conclusion that Elmore teaches or suggests the claimed Smart Component having at least one Smart Feature. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

Regarding claim 4, contrary to the Examiner's assertion, the combination of Coad and Bowman-Amuah does not teach or suggest the claimed step of stereotyping an EJB class into one of the Smart EJB component. As noted herein, Bowman-Amuah does not teach or suggest the claimed step of stereotyping as required in claim 1. In fact, col. 4, lines 62-67 in Bowman-Amuah, cited by the Examiner, merely describes that an EJB Session Bean pattern (a pattern being a reusable solution to a recurring problem) includes an EJB Session Bean, a remote interface and a home interface." One of ordinary skill in the art, after reading and understanding this cited passage in Bowman-Amuah, would not come to an incorrect conclusion that Bowman-Amuah teaches or suggests the claimed

of OOP [object oriented programming] to be applied to a messaging interface or an electronic messaging system such that a set of OOP classes and objects for the messaging interface can be provided." Also, col. 289, lines 23-56 in Bowman-Amuah, cited by the Examiner, merely describes that the relationship between two classes can be illustrated using object identifiers. One of ordinary skill in the art, after reading and understanding these cited passages in Bowman-Amuah, would not come to an incorrect conclusion that Bowman-Amuah teaches or suggests the claimed Entity EJB component comprising at least one interface and two EJB classes. It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

Regarding claim 11, contrary to the Examiner's assertion, the combination of Coad and Bowman-Amuah does not teach or suggest the claimed steps of "determining if said multiplicity relationship is one to many; and stereotyping said aggregation relation into a collection type if it is determined that said multiplicity relationship is one to many." The Examiner inadvertently cited col. 53, lines 25-30 in Coad, no such column exists in Coad. Accordingly, applicants have assumed that the Examiner was referring to Bowman-Amuah. Col. 10, lines 25-30 in Bowman-Amuah, cited by the Examiner, merely describes that a document can be defined as a collection of objects potentially of different types. One of ordinary skill in the art, after reading and understanding this cited

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passage in Bowman-Amuah, would not come to an incorrect conclusion that Bowman-Amuah teaches or suggests the claimed step of "determining if said multiplicity relationship is one to many; and stereotyping said aggregation relation into a collection type if it is determined that said multiplicity relationship is one to many." It is well established that the Examiner cannot use hindsight gleaned from the present invention to modify or reconstruct the prior art reference to render claims unpatentable.

Regarding claims 19-20, contrary to the Examiner's assertion, the combination of Coad and Bowman-Amuah does not teach or suggest "adding business logic code between said code markers" embedded in the EJB source code and "synchronizing said UML model with said business logic code, thereby providing round trip engineering support," as required in claims 19 and 20, respectively. As noted herein, one of ordinary skill in the art would not mistaken setting a flag to update a business object in Bowman-Amuah as being equivalent to embedding code markers in the EJB source code to enable subsequent updates to the EJB source code. Further, it is unclear to the applicants how Bowman-Amuah can place any business logic between one flag, as suggested by the Examiner. Furthermore, col. 5, lines 12-40 in Coad, cited by the Examiner, merely describes that the group of elements can be graphically represented. Once again, the Examiner has impermissibly reconstructed Coad and Bowman-Amuah to render the claims unpatentable using hindsight gleaned from the present invention.

Further, the claimed invention defined by the claims eliminates the shortcomings and disadvantages encountered with the prior art. Specifically, the claimed invention generates code for EJB components from a business source and embeds code markers in the EJB source code to enable subsequent updates to the source code. None of the cited references are directed to the problem solved by the present invention. It is undeniable that neither Coad, Bowman-Amuah, nor Elmore is even remotely concerned with the problem of generating code for EJB components from a business source and embedding

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code markers in the EJB source code to enable subsequent updates to the source code. The mere fact that the prior art can be modified does not make the modification obvious unless the prior art suggests the desirability of the modification. In re Laskoski, 871 F.3d 115, 117, 10 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989). Absent any disclosure directed to the claimed invention, there is no teaching or motivation for the proposed modification. Since Applicant has recognized a problem not addressed by the cited prior art and solved that problem in a manner not suggested by the cited reference, the basis for patentability of the claims is established. See In re Wright, 6 U.S.P.Q. 2d, 1959, 1961-1962 (Fed. Cir. 1988). There, the CAFC relied upon previous decisions requiring a consideration of the problem facing the inventor in reversing the Examiner's rejection. "The problem solved by the invention is always relevant". Id. at 1962. See also, In re Rinehart, 189 U.S.P.Q. 143, 149 (C.C.P.A. 1967), which stated that the particular problem facing the inventor must be considered in determining obviousness. Here, as noted herein, the Examiner's primary reference (Coad) relates to solving a completely different problem of providing a software development tool that simplifies a graphical representation of software code; the secondary reference (Bowman-Amuah) relates to solving another completely different problem of providing communication services over a communication network using a fixed format stream-based communication system; and the tertiary reference (Elmore) relates to solving yet another completely different problem of providing electronic business support system for communications service providers.

Absent evidence that the specific problem of generating code for EJB components from a business source and embedding code markers in the EJB source code to enable subsequent updates to the source code was even recognized by the prior art, there can be no finding that the invention as a whole would have been obvious. As stated by the PTO Board of Appeals in Ex parte Breidt and Lefevre, 161 U.S.P.Q. 767, 768 (1968), "an inventive contribution can reside as well in the recognition of a problem as in a solution".

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It further appears that the conclusion reached by the Board of Appeals in Ex parte Minks, 169 U.S.P.Q. 120 (1969), is here in point. There, the Board concluded that "[a]ppellant having discovered the source of the problem and solved the same . . . he is... entitled to patent protection". Id. at 121.

Therefore, the Examiner has again failed to establish a *prima facie* case of obviousness because these references independently or in combination thereof fails to solve the problem of generating code for EJB components from a business source and embedding code markers in the EJB source code to enable subsequent updates to the source code. Accordingly, Applicant respectfully requests these rejections be withdrawn.

The Examiner has failed to establish a *prima facie* case of obviousness because there is no motivation that the teaching of Coad, Bowman-Amuah, and Elmore should be combined. Coad, Bowman-Amuah, and Elmore fail to suggest the desirability of the claimed invention because, for example, it is undeniable that neither Coad, Bowman-Amuah, nor Elmore is even remotely concern with the problem of providing provisions for subsequent updates by embedding code markers into the EJB source code, synchronizing the model and code, and round trip engineering support. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness for claims 1-20.

Since applicant has recognized a problem not addressed by the cited prior art and solved that problem in a manner not suggested by either Coad, Bowman-Amuah or Elmore, the basis for patentability of the claims is established. See In re Wright, 6 U.S.P.Q. 2d, 1959, 1961-1962 (Fed. Cir. 1988). There, the CAFC relied upon previous decisions requiring a consideration of the problem facing the inventor in reversing the Examiner's rejection. "The problem solved by the invention is always relevant". Id. at 1962. See also, In re Rinehart, 189 U.S.P.Q. 143, 149 (C.C.P.A. 1967), which stated that

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the particular problem facing the inventor must be considered in determining obviousness.

Absent evidence that the specific problem of providing provisions for subsequent updates, synchronizing the model and code, and round trip engineering support was even recognized by the prior art, there can be no finding that the invention as a whole would have been obvious. As stated by the PTO Board of Appeals in Ex parte Breidt and Lefevre, 161 U.S.P.Q. 767, 768 (1968), "an inventive contribution can reside as well in the recognition of a problem as in a solution". It further appears that the conclusion reached by the Board of Appeals in Ex parte Minks, 169 U.S.P.Q. 120 (1969), is here in point. There, the Board concluded that "[a]ppellant having discovered the source of the problem and solved the same . . . he is . . . entitled to patent protection". Id. at 121.

In view of the foregoing, it is respectfully submitted that one of ordinary skill in the art, after reading and understanding Coad, would not even turn to Bowman-Amuah and/or Elmore – and if she did, she would not understand how or why Coad's software development tool for simplifying graphical representation of software code should be combined with Bowman-Amuah's fixed format stream-based communication system and/or Elmore's electronic business support system. Even if such combination is made, the resulting combination will not teach or suggest the present invention.

In view of the above, applicant believes the pending application is in condition for allowance.

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(10107432) from which the undersigned is authorized to draw.

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Respectfully submitted,

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